



Oxytropis nana Nutt., a Wyoming endemic collected by Thomas Nuttall on his journey across Wyoming in 1834

WYOMING NATIVE PLANT SOCIETY

Box 1471
Cheyenne, WY 82003

Volume 11, Number 3

May 1992

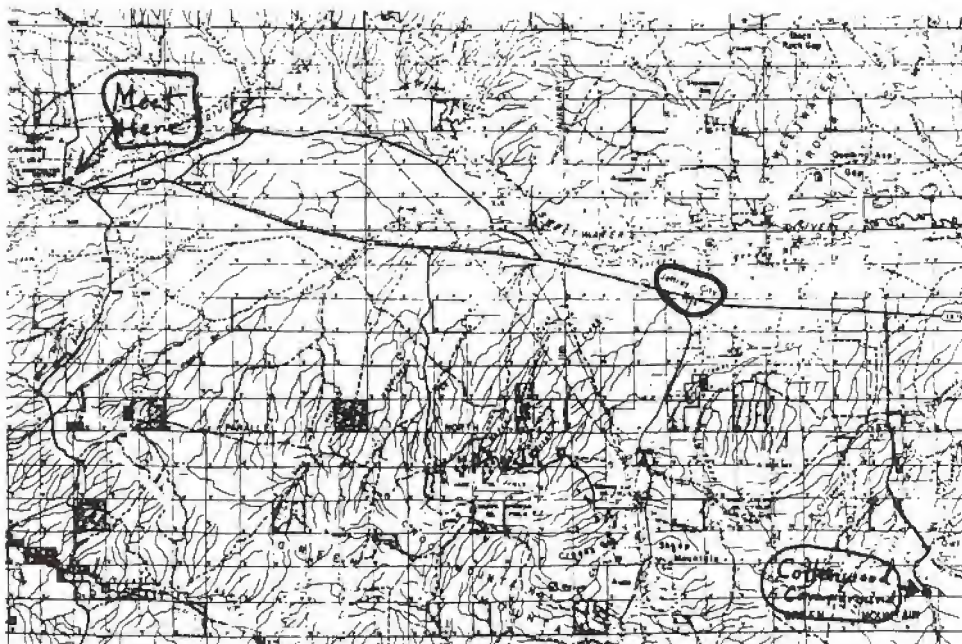
Treasurer's Report - Balance as of February 12, 1992: \$546.10; deposits: dues \$45.00, scholarship fund \$.50; disbursements: newsletter printing \$34.18, stamps \$29.00; new balance as of May 15, 1992: \$528.42. RD

Scholarship - The Board met on April 27 in Laramie and voted to give a scholarship of \$300.00 to Judi Parham, a student at Central Wyoming College in Riverton. Judi's project is "The Natural History of *Ledum glandulosum* Nutt. in the Wind River Mountains." There is only one small population of this species known from the Wind Rivers and the site has been proposed for clear cutting. RD

Dues - Dues are due by the annual meeting. Unless you have paid in advance, a dues notice is enclosed with the newsletter. RD

Election of Officers - Our nominees for officers are: President - Walt Fertig, Vice-President - Nancy Kastning, Secretary-Treasurer - Hollis Marriott, and Board Members - George Jones and Ernie Nelson. Write in votes are acceptable also. Mail votes are accepted before the annual meeting. RD

Annual Meeting - The annual meeting will be held June 27 and 28, 1992, in the Beaver Rim-South Pass area. We will meet at 8:00 am on June 27 at the Sweetwater Station Rest Area at the junction of highways 287-789 and 135 which is about 20 miles west of Jeffrey City. We will first visit the Beaver Rim area to look at *Yermo xanthocephalus* (a newly described genus) and several other endemics including *Phlox pungens*, *Physaria eburniflora*, an undescribed *Cirsium*, *Penstemon paysoniorum*, and *Oxytropis nana*. Next we will go the South Pass to see *Trifolium barnebyi*, *Townsendia nuttallii*, *Townsendia spathulata*, *Lesquerella fremontii*, *Arabis pusilla*, and *Lesquerella macrocarpa*. June 28 is open for whatever might interest the group in the adjacent desert or the lower Wind River Mountains. Come prepared with plenty of water and food as well as hiking and camping gear if you plan to camp. The closest developed campground is on Green Mountain just east of Jeffrey City (Friday night). Another developed campground is near South Pass. Undeveloped sites are abundant. RD



Wyoming Plant Families

Family 11: Caryophyllaceae, Pink Family

This is the eleventh largest family of flowering plants in Wyoming with 56 species. Common representatives include sandwort, chickweed, pink, baby's breath, and catchfly. The family is characterized by simple leaves that are opposite or rarely whorled, regular flowers with 4 or 5 sepals and 3-5 usually separate petals (rarely lacking), 3-10 stamens, superior ovary, and placentation that is free-central (see figure), basal, or axile (ovules always borne at center of ovary, not on periphery). The combination of placentation and opposite leaves will separate the family from most of our other families. Many of our species are introduced weeds but none are particularly noxious. Find representatives of the family and section the ovary or fruit with a razor blade to observe the placentation. Flower beds are a good place to look for the weedy representatives. A few species are cultivated for their color or growth form.

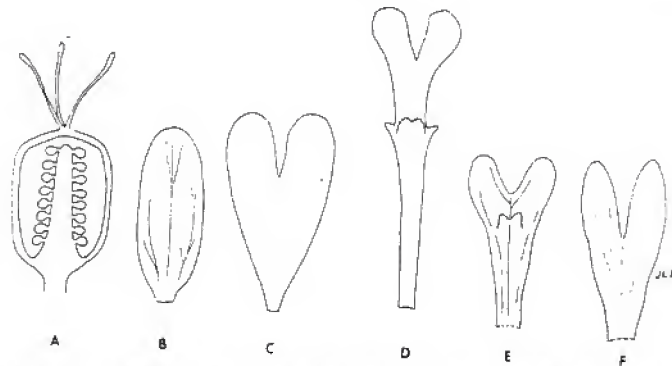


Figure. Caryophyllaceae. A. Longitudinal section of ovary showing free-central placentation (diagrammatic). B-F. Petals: B. *Arenaria hookeri* (x 7); C. *Cerastium arvense* (x 4); D. *Silene latifolia* (x 2); E. *Silene menziesii* (x 4); F. *Stellaria longipes* (x 7).

Family 12: Polygonaceae, Buckwheat Family

This family is tied for eleventh place with the Caryophyllaceae in number of species in Wyoming with 56. Common representatives include wild buckwheat, knotweed, smartweed, and dock or sorrel. Wild buckwheat (*Eriogonum*) is represented by 20 species in the state, and the knotweeds and smartweeds (*Polygonum*) account for 19 species. The family is characterized by simple, usually alternate or basal leaves which have sheathing stipules (see figure) in four genera [the other three genera have the flowers subtended by an involucre of usually united bracts (see figure)], regular flowers, a perianth of 3-6 often similar parts (tepals so not differentiated into sepals and petals as such), mostly 6-9 stamens, a superior ovary, and the fruit an achene which is often 3-sided. The species with 3, 6, or 9 perianth parts do not have parallel-veined leaves like the monocots so are easily placed in this family. The remaining species have sheathing stipules which will place them in this family. The 3-sided fruit of most of these species is also characteristic. Find representatives of this family and study the flowers, fruits, stipules, and involucres. The wiry, creeping knotweed of sidewalk cracks and roadsides should be easy to find. Later in the summer is best to find wild buckwheats in flower and knotweeds in fruit. RD

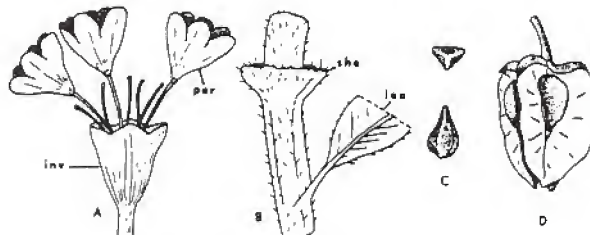


Figure. A. Part of inflorescence of *Eriogonum* (x 5); inv = involucre, per = perianth. B. Portion of stem of *Polygonum* (x 1.5); lea = leaf blade, she = sheathing stipule. C. Achene of *Polygonum* (x 4). D. Fruit of *Rumex crispus* (x 5).

Diversity

I had a conversation the other day, relating to diversity of people and interests. We agreed that meeting as many different people, cultures, races, religions, and languages, in a variety of settings was an enriching and fantastic aspect of life. Visiting different parts of this wonderful earth is important to both of us.

I think of stories that some people like to visit different areas, because of business deals. To some of us, this may mean a loss of diversity of people, culture, heritage, and wild places. We hope that pristine areas will remain as is, not disturbed for economic gain. We want to reserve as many different ecosystem types within a global biosphere park system, as is possible. The retention of innumerable life forms, ecosystems, and wild places is a worthy cause for those who believe that in wildness is the preservation of the world.

However, species come and species go. Communities come and communities go. Ecosystems change. Nothing stays the same. If we want to look at diversity and the concept of ecosystem equilibrium, we have to remember the nothing stays the same. Change is a constant, although change does not occur at constant rate. We have to look at a hierarchy of spatial and temporal patterns and processes. What occurs at one scale, may not be apparent at a different scale or may cause irreparable change. Diversity is a rather complex concept, involving biotic and abiotic composition, structure, and dynamics.

One article I've read states that diversity is a function of the dynamics of structure and that diversity of structure is a function of dynamics. Whoa!!! Say what? In a nutshell, diversity is related to what's happening in an ecosystem: as an area changes toward similarity, diversity decreases; a change towards dissimilarity increases diversity. These changes may be disturbance, stress, climatic, and successional.

Once the prevailing thought in ecological succession was climatic climax and equilibrium. There has been a shift away from this concept towards a non-equilibrium concept, that nature is constantly changing. This has led to an increase in the importance of dynamics versus structure when viewing communities and ecosystems. If dynamics is more important in maintaining diversity and if change occurs constantly, what does this mean for plant species and communities, especially those we consider rare or old growth?

In this world where human populations keep expanding and resources are in constant need, species diversity will be lost before we know what we have. You've heard that before. Some loss is inevitable, due to human presence and for whatever reason, a lust of wanting. America and other developed nations are icons for developing nations, whose need for resources will inevitably increase; preservation of wild places will become a vision we once had. If the concept of global warming becomes a reality, what we once thought preserved will change.

Change, oh how we long for those days of yesteryear, when a person could do whatever he or she felt like, such as strip mining, clearcutting, unlimited extractive resource utilization! Unfortunately in many areas of the world that is still a prevailing way of life. In recent years, some of these attitudes have begun to change, however feeding one's family takes precedence over preservation of diversity. We are very lucky in North America to be able to set aside lands with hopes of maintaining diversity.

I close with a reminder that we have to remember that preservation of diversity or anything is a misnomer, an outdated concept. What!? To me the answer is simple - if everything changes, you cannot preserve anything. Remember, what appears constant at one scale, may be changing at another scale. Fortunately, if we set aside some land, so that it will not be directly altered by consumptive human activities, we might be able to allow biotic and abiotic patterns and processes to function: diversity is a function of the dynamics of structure and diversity of structure is a function of dynamics. PA

Contributors This Issue - PA = Peter Anderson, RD = Robert Dorn, HJM = Hollis J. Marriott.

Wyoming Field Guide - A meeting to discuss a plant field guide for Wyoming is planned for June 4 and 5 in Cheyenne. Contact Virginia Moran (772-2374) or Jeff Carroll (775-6090) for more information.

Technical Meeting on Plants - A meeting on Wyoming rare plants is tentatively scheduled for October 7-9, 1992, at an undecided location. Contact Virginia Moran (772-2374) for more information.

TETON CO. CHAPTER: Upcoming Events! The recently-formed Teton Co. Chapter of the WY Native Plant Society started off with a roar, thanks to the many enthusiasts in the area. The pace hasn't slowed, as the schedule of upcoming events shows. Members will be seeding and otherwise vegetating a new native plant plot at the Jackson Information Center on May 19. The next regular meeting will feature **"Thirty Years of Wildflower Photography in Teton Co.: A Nostalgic Review of Flowers at their Best"** by Dick Shaw, professor emeritus of Utah State University, author of "Field Guide to the Vascular Plants of Grand Teton N.P. and Teton Co." and veteran of many years as a seasonal naturalist at Grand Teton N.P. The program will be held at the Highlands Rec Hall (in the Park), on Tuesday, June 2, at 7 PM. Refreshments will follow the presentation.

Field trips will replace monthly meetings during the summer season. July will feature a tour of the alpine flora at Squaw Basin (near Togwotee Pass). But the highlight of the summer should be the August "Seed Pod Hike." Dates and times have not been set; call Katy Duffy (733-1078) for details and directions. HJM

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